APHIDIDAE OF MYSORE.

BY

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(*With 13 text figures.*)

The following is a further contribution to the knowledge of the *Aphididæ* of Mysore, of which an account of several species appeared in this *Journal*,[1] in September 1928. In this paper, are recorded for the first time interesting features of several other common forms and, of six new species of aphids, described by F. V. Theobald (of Agricultural College, Wye, Kent), in the *Entomologist* (Vol. LXII, 1929) to whom my acknowledgments are due. Parts of descriptions and complete microscopical preparations of the new and common species of aphids were furnished by me from the Entomological Laboratories of the Mysore, Department of Agriculture.

Macrosiphum eleusinæ sp. nov.

Alate viviparous female.—Head, mesothorax and antennae brown, sometimes the tip of the antennae pale; segments I and II of antennae, prothorax, cauda and tibia pale; cornicles brown; femora brown; abdomen brownish-yellow; lateral margins marked with squarish brown patches, a big polygonal brown patch also present in the centre of the abdomen; eyes red. Antennae longer than body; segment I twice as long as II; IV and V about equal; VI a little more than twice V; III with 12 sensoria on one side. Rostrum reaches 2nd coxae. Cornicles narrow, a small reticulate area at apices; cornicle as long as antennal segment III. Cauda a little less than ½ the cornicles; acuminate; two hairs each side. Length, 1, 7 to 2 mm.

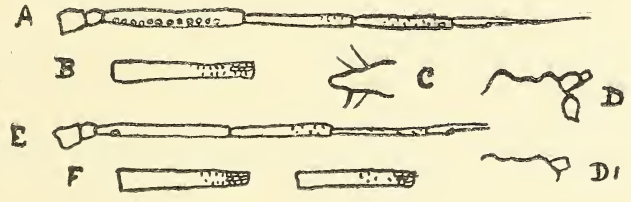

FIG. 1.—*Macrosiphum eleusinæ*, sp. nov. *A–D*, alate; *DI–F*, apterous; *A* and *E*, antennae; *B* and *F* cornicles; *C*, cauda; *D* and *DI*, head.

Apterous viviparous female.—Brownish yellow; more yellowish along the margins; antennal segments III, IV and V ringed with brown; VI all brownish; cornicles and cauda pale. Antennae longer than the body; segment I twice as long as II; III a little longer than IV, and IV equal to or slightly longer than V; VI more than twice V; cornicles as long as antennal segment IV, cylindrical, but slightly irregular in form; apex with faint reticulation, this area being small, remainder faintly imbricate. Cauda acuminate, with two pale hairs each side; about ½ the length of the cornicles; the third antennal segment has one sensorium near the base. Legs moderately long and rather thin, a few hairs on tibiae. Length, 1·7 mm.

[1] *Jour., Bom. Nat. Hist. Soc., Vol. XXXIII, No. 1*, p. 211.

Food-plant.—*Eleusina coracana* (Ragi).
Locality.—Bangalore.
Specimens collected on *Andropogon pertusus* from the same locality are, I feel sure, the same species, in spite of the different colour variations: 'Apterae, body entirely light green; antennae, cornicles and tarsi dark green; body covered with a light meal.' I can trace no structural differences from the specimens on Eleusina.

Longicaudus hamelii, sp. nov.

Alate viviparous female.—Head and eyes brownish; prothorax pale brown; mesothorax dark; abdomen yellowish brown; first pair of femora pale brown, the others dark; abdomen with black patches along the lateral margins;

FIG. 2.—*Longicaudus hamelii*, sp. nov.

antennae, cornicles and tip of cauda brownish black. Head flat; antennae shorter than body; cornicles very small; cauda large and long; mid tibiae slightly, hind not curved. Antennal segment I wider and a little longer than II; III long, with 10-14 round sensoria in a line along one side; IV a little shorter than V; VI with base not quite half V; flagellum not equal to III. Rostrum reaches 3rd coxae. Eyes large. Cornicles short, thick, cylindrical, somewhat irregular in shape. Cauda long, with very blunt rounded apex; almost parallel sided, with 3 hairs each side, markedly outstanding. Anal plate deep, semi-oval. Second fork-cell small, length, 1·3 to 1·5 mm.
Apterous viviparous female.—Same colour as the alate female. Antennae a little shorter than the body; segments I and II about equal; III longer than IV; IV a little longer than V; base of VI about half to a little less than flagellum. Eyes moderate. Cornicles short, thick, about as long as segments I and

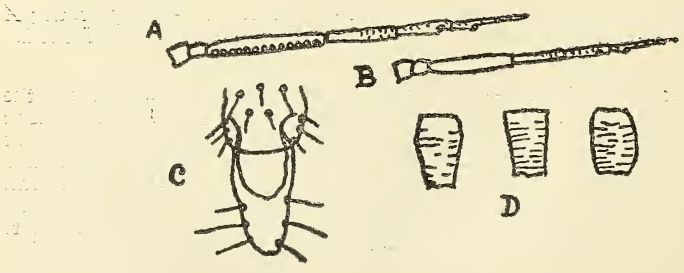

FIG. 3.—*Longicaudus hamelii*, sp. nov. *A* and *C*, antenna and cauda of alate; *B*, antenna of apterous; *D*, cornicles.

II to a little longer ; cauda similar in shape to that of alate ♀ about three times length of cornicles. Legs rather thick ; mid tibiae very slightly curved ; hind pair very much curved ; with numerous short hairs. Length, 1·4 to 1·6 mm.

Food plant.—Hamelia patens.

Locality.—Bangalore.

Easily demarked by the long, thick cauda with its 6 outstanding hairs, the curved hind tibiae in the apterae and the peculiarly shaped anal plate.

FIG. 4.—*Hyalopterus carii*, sp. nov.

Hyalopterus carii, sp. nov.

Apterous viviparous female.—Yellowish green; body with a slightly mottled appearance ; tips of the antennae, legs, cornicles and the rostrum dark ; eyes red, oval ; antennae short, less than ⅓ length of body ; segment I much wider than II, III longest, longer than VI and a little longer than IV and V ; IV and V about equal or IV a little the longer ; base of VI as long as, to a little longer than V ; flagellum about ¼ longer than base ; VI darkened ; III to IV imbricate. Head flat to slightly rounded, broad with a few short hairs. Rostrum reaches to 2nd coxae, rather broad. Cornicles short and thick, conical, about as long as hind tarsus ; in some slightly constricted at apex ; imbrication faint. Cauda broad, not quite twice as long as the cornicles, constricted near the middle ; two hairs each side, one dorso-apical and a small third one on one side. Body with hexagonal sculpturing. Legs moderately long and narrow ; tibiae with

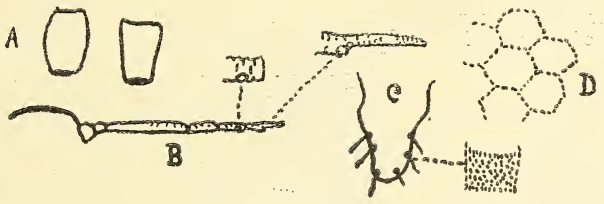

FIG. 5.—*Hyalopterus carii*, sp. nov. Apterous viviparous. *A*, cornicles ; *B*, head and antenna ; *C*, cauda ; *D*, sculpture of skin.

fine hairs. Length 1·3 to 1·7 mm.

Food plant.—Carum copticum.

Locality.—Bangalore, February, 1928.

Aphis tridacis, sp. nov.

Alate viviparous female.—Head greenish ; eyes dark ; prothorax dark green, also the mesothorax ; abdomen green on the borders, yellowish brown on the dorsum and venter from the first to fifth segment ; cornicles green ; segments 8 and 9 of the abdomen and the cauda pale yellow ; first two antennal segments dark ; apical half of femora dark ; tibiae pale, except at apices ; apex of rostrum dusky. Antennae shorter than body ; segment I slightly longer and wider than II ; III longer than IV, and IV slightly longer than V or equal to it ; VI twice V, base less than the flagellum : III with 6 round sensoria, sometimes one smaller than the others. Head flat in front. Rostrum narrow, reaching just past 2nd coxae. Cornicles rather short and broad, swelling

basally, imbrications marked, long, but wanting near apex; about as long as segment V. Cauda blunt, apex rounded, with 3 pale hairs each side; a little more than ⅓ length of cornicles. Anal plate rounded apically, more or less straight at the sides. A small papilla each side of pronotum, and another on abdominal segment 8. Second fork-cell of wings rather small. When cleared the body shows 3 large dark, lateral spots, a large dark patch

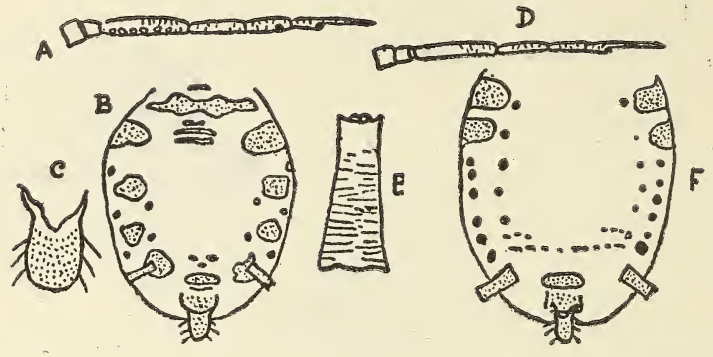

FIG. 6.—*Aphis tridacis*, sp. nov. *A–C*, Alate viviparous; *A*, antena; *B*, body markings, etc.; *C*, cauda; *D–F*, Apterous; *D*, antenna; *E*, cornicle; *F*, body markings.

at base of each cornicle, mainly mesad; 2-3 dark brown lines in front and some small dark spots laterally. Length, 1.4 to 1·5 mm.

Apterous female.—Antennae very thin, about half the length of the body, green; head paler; cornicles dark green; eyes dark; cauda, femora and tibiae pale; tips of tibiae and tarsi dusky. Antennal segment I a little longer than II; III rather more than half as long again as IV; IV and V equal; VI nearly three times as long as V, base less than ½ the flagellum, which is a little shorter than III. Rostrum thin, reaching 2nd coxae. Cornicles a little longer than segment III of antennae, markedly imbricate, but smooth, at the apices. Cauda a little shorter than cornicles, rounded apically; 3 hairs each side. A small papilla each side of pronotum and a pair on abdominal segment 8. Legs rather short. Cleared specimens show two large dark lateral spots on the pro- and mesonotum, small dark lateral abdominal spots and a few mesad of them, and a small oblong dark area before the dark anal plate. Length, 1·3 to 1·5 mm.

FIG. 7.—*Aphis tridacis*, sp. nov.

Food-plant.—*Tridax procumbens.*

Locality.—Bangalore.

This species is easily demarked by the rather short cornicles being strongly imbricate on most of their length, but quite plain at the apex. The ornamentation in cleared specimens is also very characteristic, especially in the apterae.

Aphis bidentis, sp. nov.

Alate viviparous female.—Body yellowish green; meso- and metanotum dark; cornicles, cauda and head dark; legs pale. Antennae not quite so long as body; segments I and II equal; III much longer than VI; IV longer than V, as long as flagellum of VI; VI with base about ⅔ of V; flagellum faint;

III with 6–8 sensoria in a line ; I and II dark ; III to V dark, with pale bases. Cornicles cylindrical, expanding basally, imbricate, about as long as segment IV of antennae. Cauda not quite equal to cornicles, rather long, narrower than cornicles, with 3–4 hairs each side. Abdomen with very small lateral papillae and dark lateral spots ; a dark patch at base of cornicles, caudad of them. Wings normal. Length, 1·5 to 1·7 mm.

Food-plant.—Bidens pilosa.

Locality.—Bangalore, June 1923.

An obscure species, but I cannot fit it in with any described insect.

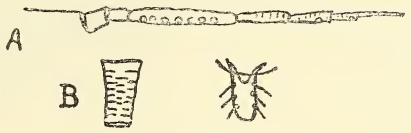

FIG. 8.—*Aphis bidentis*, sp. nov. Alate viviparous. *A*, head and antenna ; *B*, cornicle and cauda.

Oregma mysorensis, sp. nov.

Apterous viviparus female.—Yellowish green to completely green with a white mealy fringe ; a deep green patch on the dorsum, in some specimens covering the whole abdomen ; antennae and legs pale ; cornicles deep green.

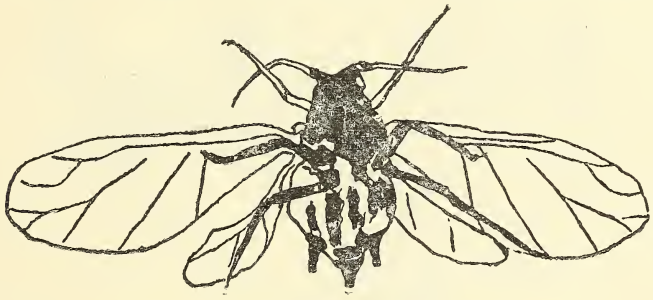

FIG. 9.—*Oregma mysorensis*, sp. nov.

More or less globular, slightly narrowed in front. Antennae of 4 segments, narrow, about ¼ length of the body ; segments I and II equal ; III very long : IV about as long as I + II. Rostrum rather broad, reaching to 2nd coxae, rather short. Cornicles round, on slightly raised cones, each with 8 hairs. Eyes of 3 facets. Two prominent, blunt horns on the head, as long as antennal segments I and II. Behind the eyes are 3 round wax glands and each side of pronotum, 5–6 each side of mesonotum, 4 each side of metanotum ; 8 pairs of lateral wax glands on the abdomen composed of 3–4 glands each, as follows : I, II, III and IV with 4 ; V with 3–4 ; VI with 3–4 ; VII with 4 ; VIII with 4 one side, 6 the other more central. Anal plate bilobed, with a few hairs. Body with lateral hairs, one arising from each of the lateral wax-pore areas. Cleared specimens show the head, antennae, legs, eyes and apex of the rostrum brown, and the wax-glands, which are more or less round, quite clear. Length.—1–1·4 mm.

Food-plant.—Bamboo.

Locality.—Bangalore.

The young in their first and second instars are greenish all over, the following moults with deeper green patches.

FIG. 10.—*Oregma mysorensis*, sp. nov. Apterous female.

FIG 11.—*O. mysorensis*. Head of apterous female.

FIG. 12. *Oregma mysorensis*, sp. nov. Apex of apterous female, showing lateral wax-pores.

Closely related to *Oregma insularis* Van der Goot but the antennae have only four segments.

Macrosiphum rosaefolium. Theobald.

This is entirely different from the M. rosaeiformis that Das mentions (*The Aphididae of Lahore*—1918) as occurring on several species of roses in gardens in the Punjab and which he calls the 'Punjab Rose Aphis'. M. rosaefolium occurring in Mysore appears to be the common rose aphis of the tropical regions. The colour pattern of this insect is quite typical and deserves mention.

Alate female.—Body yellowish green; head paler; eyes reddish; III, IV and tips of V and VI and tips of femur and tibia and tarsi, darkish; mesothoracic selerites more yellow than green; tip of rostrum dark.

Apterous female.—Light yellowish green body; eyes red; apices of III, IV and V antennal joints and of cornicles and tips of rostrum and femora and

tibia marked black. Complete VI joint with its spur is dark. Inconspicuous dusky spots present on the sides of the abdominal segments.

The general body colour of the aphids resembles the colour of surface of the rose shoots and buds on which they cluster, so closely that their presence can be detected only on examination at close proximity. The insects are more usually to be found from May-July and October-December.

Host plants.—Different varieties of roses.

Macrosiphum compositae. Theobald.

This does not seem to have been hitherto recorded in India.

The jet black colour of the entire body is quite characteristic and only apterous forms have been found so far.

The following features are of interest.—Prominent diverging tubercles with 2-3 thick slightly capitate hairs on the head ; slender antennae (longer than body) the III article with numerous sensoria ; long cornicles slightly curving outwards at the tips ; long and conical cauda and slightly capitate hairs on the body.

Host plant.—Echinops echinatus.

Taxoptera aurantii. Boyer.

' Most individuals of this species have typical Taxoptera venation and some have typical Aphis venation. The marked striate ornamentation at the base of cornicles is typical.'

Host plants.—Arlabotrys odoratissimum, Uvaria narum and *Dalbergia sisoo.*

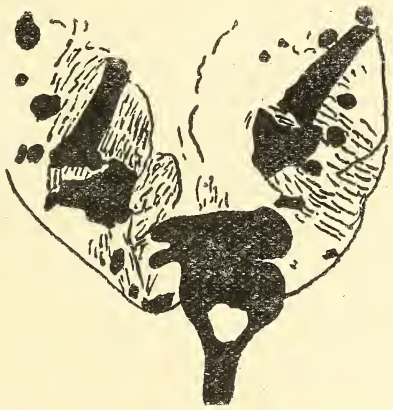

FIG. 13.—*Taxoptera aurantii* Boyer. Note striate areas at base of cornicles.

Greenidea artcarpi. Westwood.

The comparatively large-sized body with the abdomen and thorax, some times appearing squarish, the long slender and hairy antennae and outwardly curved hairy cornicles and conical cauda, render this insect very easily noticeable on the young shoots, tender leaves and their petioles of the plant ; while the younger stages are pale yellow, sometimes greenish, the adults appear brownish yellow with the centre of the abdomen dark brown. So far this has not been reported as a pest.

Host plant.—Artocarpus integrifolia—Jack.

Tetraneura hirsuta. Baker.

This was collected by Dr. K. Kunhikannan, and is very striking in appearance, looking almost spherical in shape with short brownish legs and antennae, the general body colour being creamy white and sometimes pale yellow.

Sugarcane root aphis found in Pusa have been identified by Theobald as Geoica spatulata in 1926. No root aphis of sugarcane seem to have been recorded from Coimbatore. Das does not mention any sugarcane aphis from the Punjab.

This aphid has not attained the status of a pest in Mysore so far as known.

Host plant.—Roots of sugarcane.

Aphis odinæ. Van der Goot.

This has been so far recorded only from Coimbatore by George. In Mysore it has occurred crowding round tender twigs of mango during the months of February and March; no appreciable damage to mango shoots has yet been noticed. Das does not record this insect as occurring in Punjab.

Host plant.—Mangifera indica.—Mango.

Hyalopterus arundinis. Fabrici.

This insect has only been found in small numbers.

Host plants.—Chenopodium album and *Phaseolus vulgaris.*

Aphis gossypii. Glover.

Since the publication of the 1st list of aphids, during September 1928, this species has been found on Amaranthus spinosus and species of Cassia. Infestation of Amaranthus by this species of aphid has invariably been found to be heavy.

Myzus persicae. Sulz.

This has since been found only sparingly on Phaseolus vulgaris.—(Beans) also.

Brachysiphoniella gramini. Takahashi.

This insect rather resembles species of Brachysiphum of Van der Goot.

Only apterous forms have been found. The body is covered with ash-coloured meal, which dissolves away in alcohol, the insect then appearing green. The cornicles, cauda and 1st two antennal joints are darkish, portions of antennae and legs appear whitish and transparent.

The antennae are about half as long as body; III longer than IV or V but shorter than VI spur.

Cornicles.—Very short, almost truncate; shorter than either VI antennal article or hind tarsus; slightly less than half the length of cauda.

Cauda.—Club-shaped at the tip.

Rostrum just passes the 1st pair of coxae.

Lateral tubercles are absent.

Host plant.—Grass—(The insects were collected from grass blades which were partly submerged under water.)

Cervaphis schoutedeniæ. Van der Goot.

The appearance of this insect is rather deceptive, in that it looks, at first sight, to be some species of scale insect (mealy bug) covered with a thick coating of white meal. Divested of meal, its body colour is found to be greenish yellow. The presence of long branched hairs on the body and the two horn-like structures on the head, together with the long narrow slightly curved cornicles, is very characteristic. Wherever present, this aphid does considerable damage, the leaves and twigs of the plant being heavily infested, which very soon whither, turn yellow and die away. A stronger dose, one lb. in 5 gallons of water of fish oil resin soap than is generally used for spraying against aphids here, has been found to be necessary in the case of this aphid, the usual dose being 1 lb. in 10 gallons of water.

Host plant.—Togare.

Anuraphis helichrysi. Var, warei-Theobald

This aphid produces pseudogalls on the food plant. The leaves curl up, and in the folds, large numbers of all stages of the insect are found present,

rendering the inner surfaces, also sticky with their excretion of honey dew, which, on evaporation, leaves behind very minute, whitish lumps of a substance that looks like shining object on exposure. From September to January, the food plant has been noticed to be very badly infested by this insect. About 20 per cent. of the aphide has, however, also been observed to be parasitised, the parasitised ones appearing as small, sub-circular, yellowish bodies sticking to the inside of the curled up leaves.

Host plant.—Species of *Ageratum*.